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REMARKS

Claims 1-18 are currently pending, of which claims 1, 13, and 18 are independent. Claims 1, 6, 11-13 and 18 are amended for clarity. No new matter is added. Reconsideration of the action mailed March 28, 2005, is respectfully requested in light of the foregoing amendments and the following remarks.

The Examiner rejected claims 1, 2, 6, 10, and 18 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Application Publication No. 2002/0048067 to Handelsman et al. (hereinafter "Handelman") in view of Photonic Switched True Time Delay Beam Forming Network Integrated On Silica Waveguide Circuits by Horikawa et al. (hereinafter "Horikawa"). The Examiner rejected claims 3-5, and 7-9 under 35 U.S.C. § 103(a) as being unpatentable over Handelsman in view of Horikawa as applied to claims and further in view of U.S. Patent No. 6,690,891 to Le Sauze (hereinafter "Le Sauze"). The Examiner rejected claims 11 and 12 under 35 U.S.C. § 103(a) as being unpatentable over Handelsman in view of Horikawa and further in view of U.S. Patent No. 6,091,864 to Hofmeister (hereinafter "Hofmeister"). The Examiner rejected claims 13-17 under 35 U.S.C. § 103(a) as being unpatentable over Handelsman in view of Horikawa and Fully Stabilized Electroabsorption-Modulation Tunable DBR Laser Transmitter for Long-Haul Optical Communications by Johnson et al. (hereinafter "Johnson"). Applicant traverses the rejections

Section 103(a) Rejections

Claim 1 stands rejected as unpatentable over Handelsman in view of Horikawa. Claim 1 is directed to an integrated multiple-rate optical time division multiplexing module that includes an integrated controllable optical delay switching and combining array adapted to controllably switch a path of a first optical RZ signal stream to one of a plurality of optical delay elements according to a data rate of the first optical RZ signal stream to introduce a selected optical signal delay. Neither Handelsman nor Horikawa disclose or suggest the Applicant's integrated controllable optical delay switching and combining array.

In Handelsman, a central optical switching system is disclosed. In the central optical switching system, a number of input nodes provide optical inputs into a switching fabric that

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directs optical signals to a number of optical switching apparatuses. *See* page 9, paragraphs 113-114. The switching is determined according to which destination node server in the communications network the information in the particular optical signal is destined. *See* page 9, paragraph 112-115. The optical signals received at a particular optical switching apparatus are first routed through a wavelength converter unit which converts the wavelengths of each optical signal into a particular wavelength associated with a fixed data rate. *See* page 10, paragraphs 126-130. Thus, each of the different received signals can be multiplexed together to provide a signal having a combined data rate. *See* page 10, paragraph 126. Each of the signals are delayed by a particular amount and interleaved together to create the multiplexed signal. *See* page 10, paragraph 130 and page 11, paragraph 142.

Each optical signal has a fixed path through the optical switching apparatus and is not switched to a particular delay path. *See* FIG. 2. Furthermore, the optical signals are not switched to a particular path according to the data rate of a received optical signal, as required by claim 1. The path of the optical signal is only switched in the switching fabric, where the switching is done according to the network destination of the signal. The path of the optical signal is fixed once the optical signal enters a particular optical switching apparatus. Thus, a particular delay amount is not selected according to the particular data rate of an incoming optical signal. Handelman does not disclose or suggest an optical delay switching and combining array that controllably switches a path of a first optical RZ signal stream to one of a plurality of optical delay elements according to the data rate of the first RZ signal stream.

In Horikawa, a technique for creating a beam forming array using a set of silica-based optical waveguides is disclosed. *See* Abstract; page 65. The beam forming array separates an input beam into four variable delay lines in order to provide different beams, each having a different phase difference. *See* page 65 and FIG. 1. Thus, the beam forming array shown in FIG. 1 separates an input beam into four different beams having a different amount of delay applied to each beam.

Horikawa does not disclose or suggest an optical delay switching and combining array in which the path of a first optical RZ signal stream can be switched to one of a plurality of optical

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delay elements according to a data rate of the first optical RZ signal stream. Horikawa does not disclose or suggest delaying a first optical RZ signal stream based on data rate. The Applicant respectfully submits that claim 1, as well as claims 2-12, which depend from claim 1, are in condition for allowance.

Claim 13 stands rejected as unpatentable over Handelman in view of Horikawa and Johnson. Claim 13 is directed to an integrated optical time division multiplexing subsystem that includes a controllable optical delay switching and combining array that is adapted to controllably switch a path of the first optical RZ signal stream to one of a plurality of optical delay elements according to a data rate of the first optical RZ signal stream to introduce a selected optical signal delay. As discussed above with respect to claim 1, neither Handelman nor Horikawa disclose or suggest the claimed optical delay switching and combining array.

Furthermore, Johnson does not disclose or suggest the Applicant's optical delay switching and combining array. Johnson discloses an electroabsorption laser module. See Abstract. Johnson does not disclose or suggest an optical delay switching and combining array for controllably switching a path of a first optical RZ signal stream to one of a plurality of optical delay elements. Johnson also does not disclose or suggest switching the path of the first optical RZ signal stream according to the data rate of the first optical RZ signal stream. The Applicant respectfully submits that claim 13, as well as claims 14-17, which depend from claim 13, are in condition for allowance.

Claim 18 stands rejected as unpatentable over Handelman in view of Horikawa. Claim 18 is directed to a multiple-rate optical time division multiplexing module that includes a controllable optical delay switching and combining array that is adapted to controllably switch a path of a first optical RZ signal stream to one of a plurality of optical delay elements according to a data rate of the first optical RZ signal stream to introduce a selected optical signal delay. For the same reasons as set forth above with respect to claim 1, claim 18 is also in condition for allowance.

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The Applicant respectfully requests that all pending claims be allowed.

Pursuant to 37 CFR §1.136, applicant hereby petitions that the period for response to the action dated March 28, 2005, be extended for one month to and including July 28, 2005. Please apply the required fee of \$120 to Deposit Account No. 06 1050. Please apply any other charges or credits to deposit account 06-1050.

Respectfully submitted,

Date: 7 July, 2005



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